

IN THE CLAIMS:

1. (Currently amended) An apparatus for using a control port to operate in accordance with multiple signal protocols comprising:

an interface controller comprising a line driver, a system interface and a plurality of protocol drivers each defining at least one signal characteristic, the system interface operable to receive a configuration instruction from a main processor and the line driver operable to communicate data on ~~an~~ a data input line and ~~an~~ a data output line, and control signals on a direction control line and a modulation control ~~line~~ bus comprising a modulation polarity line, a modulation enable line, and a modulation carrier signal, in accordance with the configuration instruction; and

a control signal processor connected to the control port and to the interface controller via the data input line, the data output line, the direction control line and the modulation control bus ~~line~~, the control signal processor comprising:

an infrared (IR) modulator unit operable to modulate the data output line in accordance with the modulation control bus;

an output function to couple the IR modulator unit data output line to the ~~a data signal on the control port from the output line~~ in accordance with a first direction state on the direction control line; and

an input function to couple ~~a data signal from~~ the control port to the data input line in accordance with a second direction state on the direction control line; ~~and~~

~~a modulator unit operable to modulate the data signal output in accordance with the modulation control line.~~

wherein the interface controller is operable to set the modulation polarity line to a state in accordance with the selected protocol driver and to set the modulation carrier signal to a frequency in accordance with the selected protocol driver.

2. (Currently amended) The apparatus of claim 1 wherein the control signal processor comprises a bi-directional buffer having a buffer control line coupled to the direction control line and operable to enable the bi-directional buffer to communicate the data from the data output line to the control port when the direction control line is in the first direction state and to communicate the data from the control port to the data input line when the direction control line is in the second direction state.

3. (Currently amended) The apparatus of claim 1 wherein the IR modulator unit modulates the data signal at the data output line by coupling a carrier signal to the control port when the data signal transitions from a first digital level to a second digital level if the modulation control enable line carried on the modulation control bus line is in a modulation enable state.

4. (Currently amended) The apparatus of claim 1 wherein ~~the interface controller further comprises a modulation direction line coupled to the control signal processor,~~ the interface

controller is operable to set the modulation ~~direction~~ polarity line to a normally high state or to a normally low state in accordance with the selected protocol driver.

5. (Currently amended) The apparatus of claim 4 wherein the IR modulator unit modulates the data signal at the data output line by coupling a the modulation carrier signal to the control port when the data signal transitions from a digital high level to a digital low level, and by coupling the data signal when the data signal transitions to a digital high level, the IR modulator unit being operable to invert the data signal from a digital high level before coupling the data signal to the control port if the modulation ~~direction~~ polarity line is in the normally low state.

6. (Currently amended) The apparatus of claim 4 wherein the IR modulator unit modulates the data signal at the data output line by coupling a the modulation carrier signal to the control port when the data signal transitions from a digital high level to a digital low level and by coupling the data signal to the control port when the data signal transitions to the digital high level if the modulation ~~direction~~ polarity line is in the normally high state.

7. (Currently amended) The apparatus of claim 1 wherein the line driver is operable to drive at least one additional input line, at least one additional output line, at least one additional direction line and at least one additional modulation control bus line, each at least additional output line, input line, direction line and modulation control bus line being coupled to at least

one additional corresponding control signal processor, each additional corresponding control signal processor coupled to a corresponding additional control port.

8. (Original) The apparatus of claim 1 wherein the plurality of protocol drivers comprises an S-Link protocol driver.

9. (Original) The apparatus of claim 1 wherein the plurality of protocol drivers comprises at least one wired infrared (IR) protocol driver defining corresponding wired IR protocols used by selected disc changers.

10. (Currently amended) A method for using a control port to operate in accordance with multiple signal protocols comprising the steps of:

receiving a first configuration instruction from a main processor;

selecting a protocol driver from a plurality of protocol drivers corresponding to the multiple signal protocols in accordance with the first configuration instruction;

setting a modulation control ~~line~~ bus to enable or disable modulation of an output signal in accordance with the configuration instruction, the modulation control bus comprising a modulation polarity line, a modulation enable line, and a modulation carrier signal;

receiving output data from the main processor;

setting a direction control line to an output direction state; ~~and~~

sending the output data to the control port by converting the output data to a serial output signal in accordance with the selected protocol driver; ~~and,~~

~~setting if the modulation control bus line is set to enable modulation;~~

~~setting the modulation carrier signal to a frequency in accordance with the selected protocol driver; and~~

modulating the serial output signal via the modulation polarity line.

11. (Currently amended) The method of claim 10 further comprising the steps of:

setting the direction control line to an input direction state; and

receiving a serial input signal and converting the serial input signal to input data in accordance with the selected protocol driver.

12. (Currently amended) The method of claim 10 wherein the step of modulating the serial output signal comprises the steps of:

coupling a the modulation carrier signal to the control port when the serial output signal transitions from a first digital level to a second digital level; and

coupling the serial output signal when the serial output signal transitions from the second digital level to the first digital level.

13. (Currently amended) The method of claim 10 further comprising the step of:

setting a the modulation ~~direction~~ polarity line to a normally high state in accordance with the configuration instruction, wherein the step of modulating the output signal comprises the steps of:

coupling a the modulation carrier signal to the control port when the serial output signal transitions from a digital high level to a digital low level; and

coupling the serial output signal when the serial output signal transitions from the digital low level to the digital high level.

14. (Currently amended) The method of claim 10 further comprising the step of:

setting a the modulation ~~direction~~ polarity line to a normally low state in accordance with the configuration instruction, wherein the step of modulating the output signal comprises the steps of:

coupling a the modulation carrier signal to the control port when the serial output signal transitions from a digital high level to a digital low level;

coupling the serial output signal when the serial output signal transitions from the digital low level to the digital high level; and

inverting the serial output signal when the serial output signal is in the digital high level before coupling the serial output signal to the control port.

15. (Currently amended) A media management system comprising:

a plurality of media source input/output (I/O) ports coupled to a plurality of media sources;

a media player interface comprising a plurality of output ports coupled to a plurality of media players;

a user interface coupled to at least one user interface device, the user interface operable to receive at least one configuration instruction from a user;

a control port system comprising at least one control port corresponding with at least one media source device coupled to at least one selected media source I/O port, the at least one media source device comprising a remote control input operable to receive control signals in accordance with a signal protocol, the at least one control port coupled to the remote control input, the control port system operable to configure the at least one control port to operate in accordance with one of a plurality of signal protocols, the control port system operable to select one of the plurality of signal protocols in accordance with the configuration instruction via an IR modulator unit;

a modulation polarity line capable of being set in a state in accordance with the selected protocol driver, the modulation polarity line being coupled to the IR modulator unit;

a modulation carrier signal capable of being set to a frequency in accordance with the selected protocol driver, the modulation carrier signal being coupled to the IR modulator unit;

and

a media processor operable to receive the configuration instruction and to couple the configuration instruction to the control port system.

16. (New) The apparatus of claim 1 wherein the plurality of protocol drivers comprises at least one wireless infrared (IR) protocol driver defining corresponding wireless IR protocols used by selected disc changers.